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Item 5 of the provisional agenda
UN/CEFACT recommendations and standards

Recommendation 14: Authentication of Trade Documents[1/]

Repository of legally enabling environments

Submitted for information by the International Trade Procedures Domain (ITPD) - Trade and Transport Programme Development Area

Summary

At its ninth session, in March 1979, UN/CEFACT's predecessor, the Working Party on Facilitation of International Trade Procedures (WP.4), adopted Recommendation 14 relating to "Authentication of Trade Documents By Means Other Than a Signature" (document TRADE/WP.4/INF.63, TD/B/FAL/INF.63).

The aim of this Recommendation is to encourage the use of electronic data transfer in international trade by recommending that Governments review national and international requirements for signatures on trade documents in order to eliminate the need for paper-based documents by meeting the requirement for manual-ink signatures through authentication methods that can be electronically transmitted.

The present document contains a Repository of legally enabling environments and it is an addendum to the second edition of Recommendation 14 (ECE/TRADE/C/CEFACT/2014/6).

The Country specific documents in the Repository are submitted in the form in which they were received by the secretariat.

1/ Given the change in technology since the original (1979) version of this recommendation and the change in use of vocabulary, ITPD proposes that the title be modified from the original "Authentication of Trade Documents By Means Other Than a Signature" to the current proposition "Authentication of Trade Documents".

GE.14-20498

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Please recycle

Submissions from the following countries:

- CH – Switzerland (State Secretariat for Economic Affairs – SECO).
- IN – India (National Information Center – NIC).
- IT – Italy (Italian Trade Commission – ICE).
- JP – Japan (Japan Association for Simplification of International Trade Procedures – JASTPRO).
- KR – Republic of Korea (National IT Industry Promotional Agency – NIPA).
- TR – Turkey (Ministry of Customs & Trade – Department of e-customs).
- US – United States of America (Customs and Border Protection – CBP).

Switzerland:
State Secretariat for Economic Affairs (SECO)

	Business / Trade context (very brief)
Please describe the business / trade context / need that was being addressed when you decided to move from physical to electronic signature. Why was this being put in place? What specific issues were being addressed?	The customs law provides the possibility to file a customs declaration electronically and to keep the customs records in an electronic form. These possibilities are part of the eGovernment Strategy Switzerland as adopted by the Federal Council on January 24, 2007 (The business community conducts the administrative procedures with the authorities electronically.) http://www.egovernment.ch/en/grundlagen/strategie.php
What types of trade documents were involved – be specific/ authenticated?	Certificates of origin, special permits/Licenses/Certificates and Authorizations (e.g. weapons, narcotics or Kimberly certificates)
Are there trade documents which do not legally require a signature?	All except the above
	Legal context
Type of legal system	International Agreements, Constitution, Customs Law/Acts, Ordinances. Civil Law.
What is the fastest that a legally enabling environment can be created?	Customs Law/Acts: 2 – 2.5 years (depending on the agenda of the parliament). Proposal made by customs (in coordination with the other involved departments), transferred to the 2 chambers of parliament, where it will be discussed separately until an agreement has been reached (several hearings are possible). Depending on the content of the proposal a subsequent public vote can be mandatory. International Agreements: 1 – 3 years, depending on the negotiations. Similar procedure as above. Ordinances: approximately 1 year, depending on the responsible body.
Environment for adding/amending laws	A change to an existing law is faster than creating a new one (due to the smaller size) but the procedure is the same
	Consultation / Development (transition to electronic environment)
What considerations needed to be addressed before passing any laws creating the legally enabling environment?	1. Do we still want/need document "xy"? Yes/no? 2. If yes: Do we want/need this document "xy" in electronic form? Yes/no? 3. If yes: Is there already a legal provision in place allowing for this document "xy" to be presented electronically? Yes/no? 4. If yes: Is it sufficient (no further steps needed) or has it to be amended (amendment needed)? 5. If no: A legal environment allowing for this document "xy" to be presented electronically has to be created.
How was the private sector involved in the process (public outreach, commentary period, etc.)?	As they have to bear the major part of the costs, they were involved from the beginning (in creating the legal base and the procedure). Regular information and consultations took place. Their input has been taken into account wherever possible and feasible. Together with them the procedures

	have been put in place (e.g. sending of the e-documents or giving access to their systems), deadlines have been fixed and the different implementation speed of the diverse companies has been taken into account.
Were there any unexpected obstacles or complications that needed to be addressed?	Some specialties (few use/limited to small geographic spaces) for specific situations were not suitable to be handled electronically (cost/benefit for customs and trade).
	Details of solution (removing manual signature legal environment)
Please briefly note current laws and their role in removing manual signature / enabling electronic exchange of trade-related documents.	http://www.ezv.admin.ch/dokumentation/04027/04998/05000/index.html?lang=de . (only available in our official languages: German, French and Italian). Art. 28 customs law (ZG) - possibilities of declaration (written, oral, electron-ic, etc.) Art. 84, 92, 96, 97, 105, 125, 184 ordinance (ZV) - procedure of declaration Art. 3, 6, 6a, 8, 20c ff., 24 customs ordinance (ZV-EZV) - detailed procedure of declaration
	Practical experience in use of this legal environment
Resulting implementation in public sector (relating to trans-boundary trade)	Changing towards electronic systems have been made in order to be able to keep up with the growing amount of trans-boundary traffic in connection with reduced staff (more efficient handling). Customs is responsible for all trans-boundary trade (representing the other concerned departments). See below.
	Contact details
	Judika Peters, Advisor Trade Facilitation and Development WTO Division, Federal Department of Economic Affairs, Education and Research EAER State Secretariat for Economic Affairs SECO Holzikofenweg 36, 3003 Bern Tel.: +41 31 322 58 66, email: judika.peters@seco.admin.ch

Typologies of electronic methods

Generally the authentication by Swiss customs always consists of a combination of the following different typologies of electronic methods:

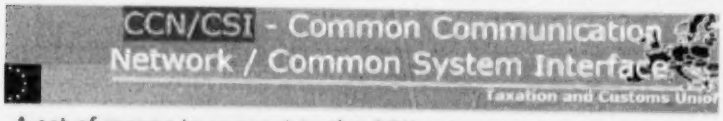
A. Communication channel (for example Virtual Private Network)

1. Import/Export

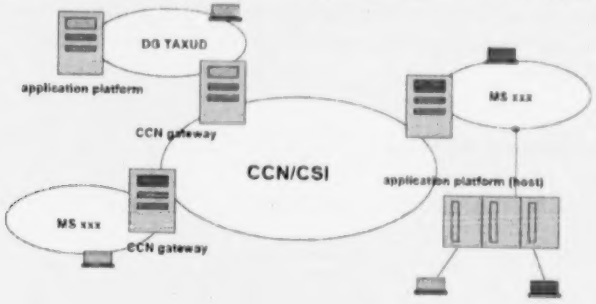
The e-dec Service enables electronic filing of export or import, as well as the acquisition of export customs declarations through a declarant. The service returns a customs response including the associated PDF documents. Our service offers various communication functionalities (Web service or Email). The two communication channels can be used alternatively. The difference is technical: the Web service is a synchronous service, the mail service is asynchronous. Both channels can only be used with a digital signature (see point C.).

2. Transit

For the transit our external clients send the transit declaration via e-mail (Simple Mail Transfer Protocol). This channel between the external clients and the Swiss customs administration can only be used with a digital signature (see point C).



A set of means to connect to the CCN gateways, i.e. harmonized protocols to connect the gateways and each application platform and a programming interface to support the data exchanges.



The channel between the customs administrations is secured (CCN/CSI).

B. Devices (authentication with a Smartphone, for example)

The employees of the Swiss customs administration use this device for the authentication in conjunction with the User Principal Names (UPN). As an alternative to the authentication via SMS, it is possible to authenticate via a Smartcard (with token; see point F) as well.

C. Digital signatures (encryption, Public Key Infrastructure (PKI))

1. Encryption

E-dec produces encrypted/signed mails using the IAIK-JCE Tookit (http://jce.iaik.tugraz.at/products/01%5Fjce/). The distribution of OpenSSL 0.9. 8i for Windows can be performed the following steps (http://www.openssl.org/). For Registration & verification (see point E)

2. PKI

The following certificates are required:

- Private certificate
- Public certificate for e-dec for the corresponding environment (test or production). Decryption and signature verification with the OpenSSL Toolkit

References:

Certificate Management with OpenSSL	http://gagravarr.org/writing/openssl-certs/general.shtml
OpenSSL Online Dokumentation	http://openssl.org/docs/
OpenSSL SMIME	http://openssl.org/docs/apps/smime.html
OpenSSL for Windows	http://www.slproweb.com/products/Win32OpenSSL.html

D. ID/Password

Employees of the Swiss customs administration use the UPN (User Principal Names) with password. Based on this, the customs officer accepts the declaration (hand- written signature is not used anymore).

E. Registration & verification process

To receive a PKI certificate, it is necessary to undertake a registration & verification process (manual procedure).

F. Tokens

The use of Smart Tokens (Smartcard, iKey) supplied by our IT provider assumes an appropriate Token Client. The Token is used for the smartcard (see point B).

India:
National Information Center (NIC)

	Business / Trade context (very brief)
Please describe the business / trade context / need that was being addressed when you decided to move from physical to electronic signature. Why was this being put in place? What specific issues were being addressed?	The Objective was to provide legal recognition to documents signed digitally in order to facilitate various B2G/G2B, C2G/G2C, B2B transactions by replacing authenticated paper documents with authenticated electronic documents.
What types of trade documents were involved – be specific/ authenticated?	Digital Signatures are being used in areas like e-Procurement , e-Banking , electronic submission of Tax Returns , Legal Contracts , etc.
Are there trade documents which do not legally require a signature?	None. Signature is mandatory. There is no such initiation for removing signature so far.
	Legal context
Type of legal system	Information Technology Act, Digital/ Electronic signature.
What is the fastest that a legally enabling environment can be created?	At present Digital Signatures are legally valid. Act also provides flexibility to add new electronic signature schemes. Such signatures Schemes should be notified in the second schedule. Ministry is authorized introduce new type of electronic signatures. The process of introduction of any new type signature may take 3-6 months.
Environment for adding/amending laws	The act empowers ministry to create new rules for authentication and introduction of new type of electronic signatures. Parliament approval is not required however it is to be placed on the table of parliament for information.
	Consultation / development (Transition to electronic environment)
What considerations needed to be addressed before passing any laws creating the legally enabling environment?	Electronic signature law exists. The current law states the electronic signature or electronic authentication technique should be considered reliable; and need to be specified in the Second Schedule. The reliability includes 1) signature linked to signatory and to no other person; 2) the signature creation data should be under the control of signatory; 3) mechanism to detect the alteration to signature and signed data. Legal recognition of electronic signature is based on the authentication by affixing the signature. The matter is authenticated by means of electronic signature affixed in such manner as may be prescribed by the Central Government.
How was the private sector involved in the process (public outreach, commentary period, etc.)?	Public can participate in the public review process.
Were there any unexpected obstacles or complications that needed to be addressed?	The reliability signature is to be examined before legal recognition.

	Details of solution (removing manual signature legal environment)
Please briefly note current laws and their role in removing manual signature / enabling electronic exchange of trade-related documents.	The Information Technology Act, 2000 has given legal recognition to Documents signed digitally using Digital Signature Certificates issued by a licensed Certifying Authority. The Act has established the Office of Controller of Certifying Authorities which issues licenses to Certifying Authorities and ensures compliance with the Information Technology Act, 2000 and other relevant Rules and Regulations.
	Practical experience in use of this legal environment
Resulting implementation in public sector (relating to trans-boundary trade)	At present digital signature is the only valid signature and for trans boundary trade, a cross certification is required.
	Contact details
	Controller of Certifying Authorities Department of Electronics and Information Technology Ministry of Communications and Information Technology Electronics Niketan , 6, CGO Complex, Lodhi Road 110003 New Delhi E-mail : info@cca.gov.in and website: cca.gov.in

Italy:
Italian Trade Commission (ICE)

	Business / Trade context (very brief)
Please describe the business / trade context / need that was being addressed when you decided to move from physical to electronic signature. Why was this being put in place? What specific issues were being addressed?	Business simplification and facilitation, faster and easier data/documents exchange
What types of trade documents were involved – be specific/ authenticated?	In general, the digitalization process has progressively involved all trade and mandatory documents in Italy
Are there trade documents which do not legally require a signature?	As a general rule, all trade documents must be signed
	Legal context
Type of legal system	Civil law
What is the fastest that a legally enabling environment can be created?	The Decree law concerning matters related to priority and national urgency (according to decisions of the Council of Ministers) is the fastest normative act in the Italian law system: it is approved by the Council and must be confirmed by a related law approved by the Parliament within 60 days. If not followed by such law, the Decree law expires. In principle, Decree laws may be used also for matters such as the creation of legally enabling environments, provided that they have the above mentioned priority and urgency requirements.
Environment for adding/amending laws	In general, There are several ways to promote a law in Italy. In particular, according to Italian relevant legal experience, for new or amended laws concerning the specific matters dealt within ECE/TRADE/C/CEFACT/2014/6, Annex A, either: • The Parliament mandates the Government to issue a Legislative Decree, setting specific guidelines and deadlines. The Government is therefore asked to comply accordingly. or • The Government or any member of the Parliament is entitled to issue a law proposal related to such matters; regular bicameral parliamentary procedures apply to these cases.
	Consultation / Development (Transition to electronic environment)
What considerations needed to be addressed before passing any laws creating the legally enabling environment?	Before creating new systems based on electronic concept, there's a need to simplify the existing rules and eliminate what is not necessary. Simplification and Red Tape reduction in fact is the first step to lighten the burden for the civil society and to improve the efficiency of the system as a whole. New laws approval can be achieved by involving public and private partnership to enable a new balance between different and sometimes contrasting interests as the Italian PA is currently accomplishing within the "Digital Agenda for Europe" program proposed by the European Commission.

How was the private sector involved in the process (public outreach, commentary period, etc.)?	The Private sector, including logistics and forwarder companies, was invited to join public Institutions in the National Standing Committee on Trade Facilitation established in February 2010, after the organization of the first 2 national conferences on Trade Facilitation in Italy in 2008 and 2009, (the latter during the 14th UN/CEFACT Forum in Rome, 20-24 April 2009). All the participants to the Standing Committee have been divided into 4 different working groups to better analyze and understand all the existing procedures of the international trade, carrying out a SWAT analysis of the system. Each group was formed by institutional experts and sectorial experts. They have analyzed all the procedures and in particular the critical aspects, bottlenecks, identifying the problems, the consequences that might occur and proposing at the same time the best solution. Also according to the UNECE recommendations and UN/CEFACT standards, all these activities resulted in a collection of best practices and in a continuous activity of analysis and mapping and digitalization of all the procedures.
Were there any unexpected obstacles or complications that needed to be addressed?	Complications are quite normal when a radical simplification process has to be conducted, especially when different Admins are involved and the approval of a reform needs the involvement of many stakeholders. Legislation related to essential matters such as the tax system and the public health require further consideration and harmonization.
	Details of solution (removing manual signature legal environment)
Please briefly note current laws and their role in removing manual signature / enabling electronic exchange of trade-related documents.	The Italian legal environment in this field was established progressively through since 1997: the DPR n.513 of 1997 - adopted in execution of article 15 of the law n. 59 of 15 March 1997 and later transposed in the DPR n. 445/2000 (Unified Body of Laws on the administrative documentation) - was the first normative act which established the validity of electronic signature for the subscription of documents. The 1999/93/CE Directive on the electronic signature was adopted by Italy through the legislative decree n.10 of 23 January 2002. Another important act adopted by the Italian legislation is the so-called "Digital Administration Code" (Codice dell'Amministrazione digitale - CAD), introduced by the legislative decree n. 82 of 7 March 2005, modified and amended in the following years. Despite its name, the Code applies to both private and public bodies. The Italian normative process in the field is still ongoing.
	Practical experience in use of this legal environment
Resulting implementation in public sector (relating to trans-boundary trade)	Even if the electronic transition is not yet operational, some of the critical points have been overcome especially in terms of communication between the private sector and the public Admin with the clarification of some rules that made companies life quite uneasy. More results are awaited as the implementation of the electronic system will go through different stages of development starting from the customs clearance operations, standard definition and implementation.

Contact details

Italian Trade Commission (ICE):

- Giovanna Chiappini Carpena, email : g.chiappinicarpena@ice.it
- Simonluca Dettori, email: s.dettori@ice.it
- Anna Belmonte, email: a.belmonte@ice.it
- Claudia Manghisi, email: c.manghisi@ice.it

Italian Economic Development Ministry :

- Graziano Severini, email: g.severini@mise.gov.it

Japan:
Japan Association for Simplification of International Trade Procedures (JASTPRO)

	Business / Trade context (very brief)
Please describe the business / trade context / need that was being addressed when you decided to move from physical to electronic signature. Why was this being put in place? What specific issues were being addressed?	The main objective has been the facilitation and simplification of business process. For this, information and communication technology (ICT) is used for exchange of information between consumer, business and government.
What types of trade documents were involved – be specific/ authenticated?	All information exchanged has to integrate details of who provided the information. The ways to identify this party may vary depending on the contents and the intended usage purpose of the information. 1) In certain business to government exchanges (B2G) for example, a user will log-in to NACCS using a digital certificate issued by NACCS Inc. NACCS stands for 'Nippon (Japan) Automated cargo and port consolidated system' which is a national single window for export and import related procedures (B2G and some part of business to business [B2B] done in domestic trade). (http://www.naccs.jp/e/index.html) 2) In case of B2B data exchange by e-mail, for example, a usual business procedure is to specify the name/company addressed at the top of e-mail contents and to put a name/company name / etc. at the bottom which may clarify from who to whom the e-mail was sent. Just as a guidance, the Ministry of Internal Affairs and Communications issued an official report in which it suggests to use S/MINE when sending e-mails to guard against identity-spoofing problems. This is not a regulation and not yet commonly used in Japan. 3) In case of B2B business, documents (irrespective of paper, fax or PDF) are sent usually with a manual signature accompanied by information of his title and company name, typed or stamped. A manual signature is often used in international trade. A (manual) signature certificate, if required by business partners, can be applied and can be issued by many organizations such as chambers of commerce and industry in Japan. Just for information, for domestic trade, a personal stamp (or 'seal') of an individual is often used; alternatively, a company stamp is used. The certificate of the seal (rendering the personal stamp official), if required, is applied to and issued by the Legal Affairs Bureau.
Are there trade documents which do not legally require a signature?	Skipped.
	Legal context
Type of legal system	All laws, ordinances, regulations, rules have to be written. Jurisprudence will be for preparing how to apply to actual cases based on the written ones.
What is the fastest that a legally	Skipped.

enabling environment can be created?	
Environment for adding/amending laws	The constitution is the highest level of laws which can be altered by a vote in the Diet (Japanese Parliament) then by voting of the nation according to the provisions of the constitution. Under the constitution, a law is proposed to the Diet by the Cabinet, by members of the House of Representatives or by members of the House of Councillors. Under the constitution and laws, the levels of responsibility vary according to geographical levels (national, prefectures [regions], cities, etc.); correspondingly, ordinances/rules/regulations can be issued at each level.
	Consultation / Development (transition to electronic environment)
What considerations needed to be addressed before passing any laws creating the legally enabling environment?	In general, it is important to involve all key players when drafting a new law or amending a law. The responsible ministry or government agency usually prepares a table for discussions, outlining the related legal or operational issues. They invite key players to comment; these may include other related ministries, government agencies, private sector, experts with business/technical experience, scholars, etc. This table can be divided into sub working groups according to the business areas and/or the levels of detail. For example, the Ministry of Finance studied the possibilities of providing documents (including the invoice) to customs via the NACCS single window via PDF transmissions and/or via a data transmission function. After discussions with the private sector, the new function is available from October 2013. Again the identification of the sender is confirmed by the user-id for NACCS as explained in the above answer.
How was the private sector involved in the process (public outreach, commentary period, etc.)?	Same as above comment.
Were there any unexpected obstacles or complications that needed to be addressed?	Detailed and concrete explanation is skipped.
	Details of solution (removing manual signature legal environment)
Please briefly note current laws and their role in removing manual signature / enabling electronic exchange of trade-related documents.	1) Digital signature (PKI): 'Act on Electronic Signature and Certification Business' (Act No.102 of 31 May 2000) into force on 1April 2001. This act includes 'Definition of the term Electronic Signature and Authentication' and that the Specified Certification business needs accreditation from the competent ministries. Competent ministries are the Ministry of Internal Affairs and Communications, the Ministry of Justice and the Ministry of Economy, Trade and Industry. Under the above law, business process using PKI is more and more widespread in Japan as it is considered cost effective in domestic business. It is not legally compulsory that PKI should be used in B2B transactions. This PKI is supported by Japan government and its scope is to cover domestic business. PKI process between consumer and government is called 'GPKI: Government Public key Infrastructure' whose operation started in April 2001.

2) A law concerning the archiving and stocking of document in electronic media (so called e-document law) became effective on 1 April 2005. (Act of No.149 and No.150 in 2004). This law allowed certain documents which previously had to be archived/stored in their paper form to use electronic media instead, either in an electronic original (if the original was created electronically) or the scanned image of the paper document.

3) Nippon Automated Cargo and Port Consolidated System (NACCS), National Single Window in Japan:

Electronic business process using NACCS has been increasing, replacing the manual processing.

The Special Law of Customs Procedures for Air Cargo was changed to the "Act on Processing, etc. of Business Related to Import and Export by Means of Electronic Data Processing System (NACCS Special Law)" in 1991.

Sea Cargo related process using Sea-NACCS started in 1991.

The Special Law of Customs Procedures through the Electronic Data Processing System was changed to the "Act on Special Provisions for Customs Procedure by Means of Electronic Data Processing System" (privatization of the incorporated administrative agency NACCS inc.) in 2008.

This reform was done with a view of promoting an efficient import/export related operation under the new generation of Single Window in Japan. Not only Government (not only Customs but also other government agencies), carriers, forwarders, traders are exchanging information via NACCS.

(http://www.naccs.jp/e/aboutcenter/history.html)

Practical experience in use of this legal environment

Resulting implementation in public sector (relating to trans-boundary trade)

Please refer to the comments in above question.

Remark: All above explanation is non-exhaustive and subject to update/correction by experts from relevant sectors.

Contact details

Reported by Mitsuru Ishigaki

Email: m-ishigaki@jastpro.or.jp

Republic of Korea:
National IT Industry Promotional Agency (NIPA)

	Business / Trade context (very brief)
Please describe the business / trade context / need that was being addressed when you decided to move from physical to electronic signature. Why was this being put in place? What specific issues were being addressed?	Legally enabling environment of electronic documents provides great innovative values in business and trade. The paperless policy was facilitated in both the legal and technical context. For the paperless transition in society, the authentication of e-documents, from its creation to its disposal, is a critical issue.
What types of trade documents were involved – be specific/ authenticated?	Three types of trade documents (Letter of Credit, e-Negotiation Application, e-Bill of lading) have the legal obligation of authentication (under the Electronic Trade Facilitation Act).
Are there trade documents which do not legally require a signature?	Most e-trade documents are generally signed for the purpose of protection from probable dispute, although it's not a legal obligation (under the Electronic Trade Facilitation Act).
	Legal context
Type of legal system	Civil Law, General Law, Commercial Law.
What is the fastest that a legally enabling environment can be created?	Legal recognition in General Law such as 'Digital Signature Act 'and 'Framework Act on Electronic Document and Electronic Commerce'.
Environment for adding/amending laws	'Framework Act on Electronic Document and Electronic Commerce' was added to the legal system regarding authentication. Some civil and commercial laws were amended to stipulate the legal effect of e- documents in each domain area.
	Consultation / Development (transition to electronic environment)
What considerations needed to be addressed before passing any laws creating the legally enabling environment?	• Analysis of the obstacles (practices, customs or jurisdiction etc.) for paperless transition. o Review legal scheme and electronic environment. • Consultation about the authentication of e-document o Define the trustworthy environment using e-document as legal source; o Research a trusted solution to minimize the least risks, errors and uncertainties given in the electronic environment; o Plan strategies as a cooperative model between private and public sector (especially, the third party is easy to prove it neutrally and the public sector can organize the overall scheme of trusted system). • Development of a trusted system. o Develop regulations and restrictions; o Develop a technical guidance needed to ensure a trusted system.

	• Facilitation of the Trusted Third Party (TTP) service ○ Facilitate that TTP or private sector provide the service in compliance with regulations and technical guidance; ○ Facilitate that public sector assesses regularly the quality of trusted systems and provides the audit.
How was the private sector involved in the process (public outreach, commentary period, etc.)?	The private sector applies for TTP services in compliance with technical guidelines. Public sector evaluates its compliance and designates it as a TTP.
Were there any unexpected obstacles or complications that needed to be addressed?	There is no mutual recognition of authentication beyond national PKI among cross-border e-transactions.
	Details of solution (removing manual signature legal environment)
Please briefly note current laws and their role in removing manual signature / enabling electronic exchange of trade-related documents.	• **Digital Signature Act** (1999), (2001),(2005),(2008),(2010), (2011) ○ Purpose of legislation is to improve security and reliability of e- documents. It provides the authentication, identification and integrity to facilitate e- commerce, e-government and good life of citizens. ○ This act refers to the Model Law of e-Signature (MLES) of UNCITRAL. ○ This act requires legal effect by utilizing digital signature, certified authority system of digital signature and etc. ○ Korea Information Security Agency (KISA) organizes certified authority system. ○ This act establishes a process for interested groups to: ▪ keep control of the protection from kinds of risks such as cyber infringement, unaccepted access and disaster; ▪ issue a certificate to identify a particular person by hash algorithm; ▪ record the activities of users' certificates and its certified system. • **Framework Act on Electronic Document and Electronic Commerce** (1999),(2002),(2005),(2006), (2007), (2008), (2009), (2012) ○ Purpose of this act is to stipulate legal relations of e-commerce, ensuring its security and reliability, and laying the foundation for its promotion. ○ This act refers to Model Law of e-Commerce (MLEC) of UNCITRAL. ○ This act requires the legal effect by utilizing e-document, trusted third party repository, trusted electronic address and certification of communication, etc. ○ NIPA (National IT Industry Promotion Agency) organizes overall scheme of trusted systems regarding electronic documents and electronic commerce.

- This act establishes the process and rules for interested groups to :
  - keep control of the protection from the kinds of risks such as cyber infringement, unaccepted access and disaster;
  - issue certificates of authenticity of e-document;
  - issue certificates of communication of e-document.

- **Electronic Government Act** (2010), (2011), (2012)
  - Its purpose is for required federal agencies to provide e-government services and manage administrative documents electronically.
  - This act refers to the Digital Signature Act (above).
  - This act requires the electronic administrative document and Electronically Stored Information (ESI) format.
  - This act establishes procedures and rules for federal agencies to:
    - request a civil appeal in electronic format;
    - confirm the civil affair document and required documents in electronic format;
    - confirm the identification of a client of a civil affair under Digital Signature Act;
    - keep control of administrative documents in electronic format;
    - stipulate the legal effect of using the electronic documents.
- **Electronic Financial Transaction Act** (2006), (2007), (2008), (2010), (2011), (2012)
  - The purpose of this act is to contribute to ensuring the security and reliability of e- financial transactions by clarifying their legal relations and to promoting financial conveniences for people and developing the national economy by creating a foundation of sound development of electronic financial industry.
  - This act refers to the Digital Signature Act (above).
  - This act outlines the rights and responsibilities of the person involved in electronic financial transactions, electronic money and the legal effect of electronic payment etc.
  - This act establishes some regulations, guidelines and procedures for financial agencies and financier to:
    - access the system media and confirm the identification and permission of a client and the intent of transaction;
    - handle the least errors and/or accidents during e-financial transactions.
- **Act on the Use, etc. of Electronic Document in Civil Litigation** (2010)
  - Its purpose is to promote dematerialization of civil litigation, etc. and enhances swiftness and transparency thereof, thereby contributing to realizing people's rights, by prescribing fundamental principles and procedures concerning the use of electronic documents in civil litigation, etc.

- This act refers to the Digital Signature Act and the Electronic Government Act (above).
- This act requires digital signature used in judicial cases.
- This act establishes procedures for 'Office of Court Administration to:
  - execute civil litigation by electronic documents;
  - register and submit electronic documents to a court;
  - record the cases of civil litigation in electronic format.

- **Electronic Trade Facilitation Act** (2005),(2007), (2008), (2009), (2011)
  - The purpose is to simplify trade procedures, rapidly circulate trade information and reduce costs of handing trade business by creating grounds for electronic trade and facilitating its wide use.
  - This act refers to the Digital Signature Act and the Framework Act on Electronic Document and Electronic Commerce (above).
  - KITA (Korea International Trade Association) organizes electronic trade portal called as 'uTraceHub'.
  - This act establishes the requirements of electronic trade documents, electronic trade service providers and electronic trade portals.
  - This act establishes rule that electronic trade portal provides following services:
    - notice about the Letter of Credit;
    - e-Negotiation Application;
    - issuance of e-Bill of Lading.
  - This act establishes the process for a trader to manage electronic trade document such as:
    - archive e-trade documents;
    - certificate of authenticity.
- **Value-Added Tax Act** Act No. 9268(2008)
  - NTS (National Tax Service) organizes the value-added tax system.
  - This act refers to the 'Digital Signature Act' and the 'Framework Act on Electronic Document and Electronic Commerce' (above).
  - This act establishes the requirements for e-tax bills documents.
  - This act establishes a process for business enterprise to
    - keep control of e-tax bills in electronic format;
    - declare e-tax bills to NTS via Internet.
- **Regulation Implementation of the Provisions of the Commercial Act Regarding Electronic Bills of Lading**, Presidential Decree No.22467 (2010)
  - The purpose is to provide delegated powers pursuant to Article 862 of the Commercial Act
  - This act refers to Digital Signature Act (above).
  - This act establishes the requirements for register agencies and

electronic registries of electronic bills of lading.

- This act establishes the process for trading companies to :
  - issue electronic bills of lading;
  - transfer electronic bills of lading.

Practical experience in use of this legal environment

Resulting implementation in public sector (relating to trans-boundary trade)

The '*digitally signed document*' sent in electronic transactions can be considered as the legal source under the Digital Signature Act and the Framework Act on Electronic Document and Electronic Commerce. However there are some implementing difficulties because digital signatures are only valid for a certain period.

For the purpose of 'paperless transitions' in society, in Korea there are two practical solutions such as Trusted Third Party Repository (TTPR) and 'Trusted address and sharp (mail) service' in order to reduce the probable disputes with cause for electronic format or transactions. These are the trusted service developed in a model of Private Public Partnership (PPP) guaranteed by the national laws.

- **TTPR (Trusted Third Party Repository)**

There is a big hurdle for paperless transitions. Even if the electronic document is properly produced during e-business, people tend to preserve it in paper format as legal evidence. Because it is difficult to identify its original or changeable source, a solution is needed. TTPR provides an easy way to guarantee the '*authenticity of e-documents*' in compliance with legal requirements by expertise of archive (and disposal) for the long term.

In 2006 the 'Framework Act on Electronic Document and Electronic Commerce' was revised to state legal grounds (Article 5-1, 31) that a TTPR can issue the certificate of authenticity for archived e-documents in TTPR. In addition, this law includes its regulations, technical guidelines and audit scheme needed to guarantee a trusted system.

In Korea there are 6~7 TTPRs for archiving. TTPRs are creating new value added services replacing previously paper based work such as clients' subscription procedure at insurance companies, credit card companies, stock brokers and banks, the clients' admission/leaving procedure at hospitals and clinics, lots of issuance procedures at universities, educational institutes or test laboratories and so on. And also it new service model in cloud environments could be expected.

- **Trusted address and sharp (mail) service**

'*The signed document during e-transactions* can be considered as a legal source. However after finalizing the valid period of electronic signature or after getting rid of the electronic signature, it is difficult to prove the business context – e-documents resulting from reliable communications with identified partners. Therefore, it is needed to realise a provable solution in advance to verify its authentication – '*the e-document born through reliable communications*'.

In 2012 the Framework Act on Electronic Document and Electronic Commerce' was revised to state legal grounds about the trusted address (Article 18- 4) and trusted communication system. Trusted address, compared with e-mail address, guarantees the reliable communications for legal effect. TTP (Trusted Third Party) provides the trusted communications

called 'sharp mail service' by using trusted address. Although it could be compared with 'registered mail', the message handling is different.

In Korea there are now 4~5 TTPs for trusted communication service. It can provide trusted services applied to kinds of business models in government to consumer, business to business, consumer to consumer, business to consumer and so on. However, this service is not yet incorporated with TTPR. The further combination of these services could provide a way to prove the authentication of e-document from its creation to archive (and disposal).

- **E-Customs and e-Trade Services**

In Korea, there are two portal services; 'UNI-PASS' and 'uTradeHub'. The paperless trade service portal called 'uTradeHub' has been operated by KITA (Korea International Trade Association) since 2003. And electronic customs-clearance portal system called 'UNI-PASS' (previously, Internet Clearance 2005 and EDI Auto Clearance 1992) has been serviced by Korea Customs Service (KCS) since 2010.

These portal services process electronically overall customs and trade procedures such as customs-clearance, cargo management, duty collection, marketing, checking conditions, foreign exchange, logistics and payment. For handling the above activities, these systems are interlinked with networks of trading parties concerned such as domestic banks, foreign banks, the Korea Financial Telecommunications and Clearings Institute, the Korea Customs Services and logistics companies.

For international trade, there are some difficulties of digitally signed documents depending on NPKI (National Public Key Infrastructure). In order to handle it, digital signatures will need to be recognized mutually with other countries and its legal effect should be mutually recognized in forth coming days.

Contact details

NIPA (National IT Industry Promotion Agency)

Jasmine Jang, email: jasmine@nipa.kr

Turkey:
Ministry of Customs and Trade

	Business / Trade context (very brief)
Please describe the business / trade context / need that was being addressed when you decided to move from physical to electronic signature. Why was this being put in place? What specific issues were being addressed?	The establishment of an e-signature system provides electronic signing of customs declarations, that results in a safer and faster international trade.
What types of trade documents were involved – be specific/ authenticated?	Customs declarations (Single Administrative document) Transit Accompanying Document (NCTS).
Are there trade documents which do not legally require a signature?	They all require a customs administrations' signature procedure.
	Legal context
Type of legal system	The electronic signature Law of 2004.
What is the fastest that a legally enabling environment can be created?	By using electronic systems
Environment for adding/amending laws	
	Consultation / Development (transition to electronic environment)
What considerations needed to be addressed before passing any laws creating the legally enabling environment?	
How was the private sector involved in the process (public outreach, commentary period, etc.)?	Private sector is able to use electronic signatures as well.
Were there any unexpected obstacles or complications that needed to be addressed?	No.
	Details of solution (removing manual signature legal environment)
Please briefly note current laws and their role in removing manual signature / enabling electronic exchange of trade-related documents.	The above mentioned Law provides to use both of them.
	Practical experience in use of this legal environment
Resulting implementation in public sector (relating to trans-boundary trade)	It's crucial for simplification of trade.
	Contact details
	Ministry of Customs & Trade
	DG for Risk Management & Control, Department of e-customs

United States of America:
United States Customs and Border Protection (CBP)

	Business / Trade context (very brief)
Please describe the business / trade context / need that was being addressed when you decided to move from physical to electronic signature. Why was this being put in place? What specific issues were being addressed?	The greatest need addressed in the decision to move from a physical signature to electronic signature was the legislative mandate (see reference to the Mod Act below) to manage business improvements in customer service, trade facilitation, and compliance with regulations and tariffs. The ultimate goal for CBP was improved border enforcement and trade compliance under U.S. laws and regulations, while simultaneously creating greater efficiencies and facilitation of legitimate trade and travel.
What types of trade documents were involved – be specific/ authenticated?	The importation of goods into the United States, is generally a two-part process consisting of 1) filing the cargo release documents necessary to determine whether merchandise may be released from CBP custody, and 2) filing the entry summary documents that pertain to merchandise classification, duty, taxes, and fees. For the most part, the documents involved were for purposes of entry summary. Currently, over 99 percent of all entry summaries are filed electronically. The only documents CBP still collects which would require wet ink signatures are those forms which CBP collects on behalf of other agencies, entry papers (i.e., consumption entry and the invoice), and any classified documents.
Are there trade documents which do not legally require a signature?	See response above. Everything (with the exception of entry papers and classified documents) that is filed electronically with CBP gets an electronic signature.
	Legal context
Type of legal system	Common Law.
What is the fastest that a legally enabling environment can be created?	The fastest path to a legally enabling environment is via legislation and/or Presidential Executive Order. The legislation will usually provide a period of time by which the requested change must take place. It is the responsibility of federal agencies to make the necessary revisions/updates to their regulations to implement the legislation.
Environment for adding/amending laws	Security/health based legislation is "fast tracked" as necessary. Other legislation that does not address security/health based concerns follows a more traditional path. Once a bill is introduced, it is sent into the appropriate subject matter Committee (separately, in both the House and Senate) for review. The respective Committee can choose to table the bill or make recommendations and put it to a vote. This is the time when the bill will be shared with other organizations for feedback/input. Separately, the Senate and the House will debate the bill, offer amendments and cast votes. If the bill is defeated in either the Senate or the House, the bill dies. It is not unusual for the House and the Senate to pass the same bill, but with different amendments. In these cases, the bill goes to a conference committee to work out differences between the two versions of the bill. Then the bill goes before all of Congress for a vote. If a majority of both the Senate and the House votes for the bill, it goes to the President for approval. If the President approves the bill and signs it, the bill becomes a law. However, if the President disapproves, he can veto the bill by refusing to sign it.

	Congress can try to overrule a veto. If both the Senate and the House pass the bill by a two-thirds majority, the President's veto is overruled and the bill becomes a law. Once the law is enacted the Administration will usually provide a broad framework of guidance to ensure implementation of the legislation.
	Consultation / development (transition to electronic environment)
What considerations needed to be addressed before passing any laws creating the legally enabling environment?	Prior to advocating a legally enabling environment that will promote or require a transition to an electronic environment; the agency must conduct a thorough review of the paper based processes to determine whether any are suitable for conversion to electronic signature. If a determination is made that some processes would be suited for conversion, the agency must assess whether there are any existing gaps in the paper based process that can be mitigated by conversion to electronic. An additional consideration is the level of protection that will be required for the government and the potential of risk or liability for the agency. Also important is a review of the current legal schema to determine whether there are any existing legislative and/or regulatory restrictions. Per guidance from the Office of Management and Budget (OMB), agency considerations of cost, risk and benefit, as well as any measures taken to minimize risks, should be commensurate with the level of sensitivity of the transaction (i.e., low risk information processes may need only minimal safeguards while high risk processes may need more). Impact to stakeholders must also be assessed and consultations with all impacted parties must be coordinated.
How was the private sector involved in the process (public outreach, commentary period, etc.)?	Yes, the private sector must certainly be part of the process. Government should, in consultation with other agencies and private sector, develop practical guidance on the legal considerations related to agency use of electronic signatures so that appropriate assessments can be made in terms of goals and acceptance of those goals by all vested parties. In CBP, any change from a paper based process to an electronic process is precipitated by a legal notice announcing to the trade community the changes CBP would like to implement. The trade community is given an opportunity to provide written comments. In the interim CBP reaches out to all the impacted industry sectors and coordinates outreach/engagement prior to any decision making.
Were there any unexpected obstacles or complications that needed to be addressed?	Obstacles include differing legislative mandates across federal agencies; divergent trade needs; lack of adequate resources (both financial and human) to support the necessary changes, and technical upgrades that must be made on both sides (government and trade) to support the needed changes.
	Details of solution (removing manual signature legal environment)
Please briefly note current laws and their role in removing manual signature / enabling electronic exchange of trade-related documents.	• Computer Security Act of 1987, Pub. L. No. 100-235, 40 U.S.C. 1441: Legislation passed to improve the security and privacy of sensitive information in Federal computer systems and to establish a minimum acceptable security practices for such systems. Requires the creation of computer security plans and the appropriate training of system users or owners where the systems house sensitive information. • Paperwork Reduction Act of 1995: Required each Federal agency to establish a process, independent of program responsibility, to evaluate proposed collections of information; manage information resources to reduce information collection burdens on the public; and ensure that the public has timely and equitable access to information products and services.

- Government Paperwork Elimination Act (GPEA), Pub. L. No. 105, 1998, codified as 44 U.S.C. 350: Required federal agencies to provide for the option of the electronic maintenance, submission, or disclosure of information, when practicable, as a substitute for paper; and the use and acceptance of electronic signatures when practicable).

- Electronic Records and Signatures in Global and National Commerce Act (E-SIGN), Pub. L. 106-229, 2000, 15 U.S.C. 7001 (E-SIGN): Eliminates legal barriers to the use of electronic technology to form and sign contracts, collect and store documents, and send and receive notices and disclosures. E-SIGN applies broadly to Federal and state statutes and regulations governing private sector activities. Laws and regulations that are primarily governmental and do not relate to business, commercial or consumer transactions are not within the scope of this legislation; they are instead addressed by the Government Paperwork Elimination Act.

- U.S. Customs and Border Protection Specific Empowering Legislation:

  - Customs Modernization Act (the "Mod Act"), Pub. L. 103-182, December 8, 1993, amending title 19 U.S.C. 1508, 1509 and 1510, formally Title VI of the North American Free Trade Agreement Implementation: one of the most sweeping regulatory reform legislations, amending the Tariff Act of 1930 and related laws. Introduced two new Customs concepts known as "informed compliance" and "shared responsibility." These concepts are premised on the idea that in order to maximize voluntary compliance with Customs laws and regulations, the trade community needs to be clearly and completely informed of its legal obligations. An overarching goal of the Mod Act was to place a greater responsibility upon the trade community to exercise "reasonable care" in complying with import requirements.

  - The principal section of the Mod Act addressing automation was codified under 19 U.S.C. 1411-1414 (promulgated by CBP under the National Customs Automation Program (NCAP) testing provision, 19 CFR 101.9). NCAP provides U.S. Customs and Border Protection with an automated electronic system to process commercial importations and facilitate business improvements with the trade community.

  - Among other statutes, the Mod Act amended Section 484 of the Tariff Act of 1930. Added provision (d) (1) providing that: Entries shall be signed by the importer of record, or his agent, unless filed pursuant to an electronic data interchange system. If electronically filed, each transmission of data shall be certified by an importer of record or his agent, one of whom shall be resident in the United States for purposes of receiving service of process, as being true and correct to the best of his knowledge and belief, and such transmission shall be binding in the same manner and to the same extent as a signed document. The entry shall set forth such facts in regard to the importation as the Secretary may require and shall be accompanied by such invoices, bills of lading, certificates, and documents, or their electronically submitted equivalents, as are required by regulation.

  - The Mod Act also allowed for the submission of information through a CBP authorized electronic data interchange system in all statutes that previously required documents or forms so that the electronic transmission of data could replace submission of the documents. Moreover, the Mod Act did not specify any one system purposefully so we can use any system we approve.

- Under the authority of the Mod Act, we also allow approved parties to convert and store original paper documents into an electronic medium and store them electronically if CBP approves an alternative storage method.

- The Mod Act was subsequently amended by the Trade Act of 2002 to include, among other things, the following change (2002—Subsec. (b). Pub. L. 107–210): Struck out a former second sentence which read as follows: "Participation in the Program is voluntary." Inserted a new second sentence which now reads: The Secretary may, by regulation, require the electronic submission of information described in subsection (a).

- Security and Accountability for Every Port Act of 2006 (P.L. 109-347 (Section 405), October 13, 2006, (SAFE Port Act): Required the Secretary of the Treasury to oversee an interagency initiative to establish a "single portal system," to be known as the" International Trade Data System" (ITDS) and to be operated by the United States Customs and Border Protection. This unified data system is to electronically collect and distribute import and export data required by government agencies that license or clear the import or export of goods.

Practical experience in use of this legal environment

Resulting implementation in public sector
(relating to trans-boundary trade)

There are a number of ways in which CBP is currently successfully using electronic signatures.

- The ACE Secure Data Portal is a web-based capability providing a single, centralized on-line access point to connect CBP, the trade community and government agencies. Once a Portal Account is established, trade members can electronically submit specified data and/or documentation/forms needed during the cargo importation process. ACE authenticates the electronic documents that it receives by comparing certain fields in the message to a user profile established at the time of registration. The profile includes, among other things, both the filer code and password chosen by the filer. This "trusted" profile is used during authentication (Port, Filer Code, password).

- The Document Image System (DIS) provides the trade community the ability to electronically submit imaged copies of specified documents and forms so they can be processed and stored electronically eliminating the need to process and store paper documents and forms.

- EDI data-transmissions (through ABI – Automated Broker Interface, for example) - Another method by which trade members can submit data to CBP. To use ABI, a brokerage or importer must request or already possess a "filer code." Once a filer code has been issued, the brokerage/importer must submit a Letter of Intent indicating intent to transmit data via EDI. Any party transmitting data with CBP must also sign an Interconnection Security Agreement (ISA). Data is transmitted using a Virtual Private Network (VPN), a means of communication from one computer to another over a public telecommunications network that relies on encryption to secure the content of transmissions.

Contact details

Josephine Baiamonte
Branch Chief, Change Management and Legal Policy, ACE Business Office
U.S. Customs and Border Protection, Email: josephine.baiamonte@dhs.gov